Global competitiveness divide and the middle-income-trap: an empirical analysis

Timothy Yaw Acheampong

In recent times, the middle-income trap (MIT) has become a pertinent issue as economists, researchers and development practitioners continue seek answers to why the majority of middle-income countries find it difficult to advance to high-income status. There is still no consensus in literature as to the exact cause(s) and the solution to the MIT. The World Economic Forum posits that, the score of countries on the Global Competitive Index (GCI) 4.0 accounts for over 80% of the variation in income levels of countries. This suggests that the extent of global competitiveness of countries could potentially help them to escape the MIT. However, some competitiveness literature have identified an apparent competitiveness divide among countries. This paper therefore seeks to answer the following questions: how does middle-income countries differ from the high-income countries in terms of global competitiveness. The study utilises an independent samples t-test and effect size measures to examine the GCI 4.0 scores of 140 countries. The study finds a very large and significant competitiveness divide between the high and middle-income countries ($\eta^2 = 0.54$).

Keywords: Global Competitiveness Index 4.0; Middle-Income-Trap; Economic Growth; Competitiveness Divide

1. Introduction

For a little over a decade now, the concept of middle-income trap (MIT) has received enormous, attention from economists, development practitioners and international development organizations, such as the United Nations, World Bank, and the IMF. Estimates from the World Bank indicate that out of 101 middle-income countries in 1960, only 13 were able to become high-income by the year 2008 (World Bank 2012). Thus, the countries that were unable to advance to high income status are considered to be stuck in the MIT (Glawe–Wagner 2016, 2018). The MIT is a global development concern due the negative welfare consequences such as higher rates of poverty and inequality in the affected countries. Meanwhile, addressing issues of world poverty and equality continues to be a global priority as captured in the Sustainable Development Goals (UN 2015, 2017).

   Although different definitions have be proposed in literature, the concept of MIT is generally accepted to describe the phenomena whereby countries that enter the middle-income bracket are unable to advance to high-income status as a result of stagnations in economic growth (Gill–Kharas 2015, Eichengreen et al. 2013, Glawe–Wagner 2016). Currently the MIT literature is still inconclusive on the specific causes of the MIT and how countries can avoid and escape the trap. Several factors including technological development, international trade, strong institutions, and human capital have been proposed as solutions to overcoming the MIT in view of their respective

roles in promoting economic growth (Glawe–Wagner 2016). In recent times, some literature have suggested that the competitiveness of countries is a strong determinant of their economic growth. For instance, the World Economic Forum's Global Competitiveness Index (GCI) Report 2018 posits that the performance of countries on the GCI explains over 80% of the variation in income levels and 70% of the variation in long-term growth across countries and economies (Schwab 2018, WEF 2018). According to the Report, economies that underperform in competitiveness given their current income level may have difficulty sustaining that level without improving their competitiveness.

Although the GCI Report suggests that there is a strong positive relationship between the competitiveness and income level of countries, empirical studies are yet to investigate the veracity of this hypothesis within the context of the MIT. Furthermore, whiles competitiveness has been identified as an important factor for promoting economic growth, some literature have found the existence of a competitiveness divide among countries particularly in Europe (Pelle–Végh 2014; Annoni et al. 2017). However, the magnitude of this divide is yet to be quantified. This paper therefore seeks to investigate the magnitude of the difference between the recent GCI 4.0 scores of high-income and middle-income countries by answering the question: how does middle-income countries differ from the high-income countries in terms of their global competitiveness? Since this can give an indication of the potential role of competitiveness in escaping the MIT.

The subsequent sections of this paper provide a brief overview about the concept of the MIT and competitiveness and their nexus. This is followed by a detailed methodology on how the study investigated the magnitude of the difference between the competitiveness of the middle-income and high-income countries. The findings are then presented and discussed before the paper concludes with recommendations for policy and areas for further research.

2. Theoretical and Conceptual issues

2.1. The concept of middle-income trap

The concept of the 'middle-income trap' (MIT) is relatively new in economics and development discourse (Glawe–Wagner 2016). According to Gill and Kharas who introduce the term MIT) in a 2007 World Bank Report, the MIT concept emerged due to the inability of the existing economic growth theories – endogenous growth theories and the Solow growth model – to inform development policy satisfactorily in middle income countries (Gill–Kharas 2015). They argued that although the endogenous growth theories and the Solow growth model were successful in addressing growth problems in high income and low-income countries respectively, neither of those two frameworks were satisfactory in understanding and addressing the nature of economic growth challenges in middle-income countries (Gill–Kharas 2015).

Different definitions of the MIT have been proposed since the emergence of the concept; however, the term is generally used to describe countries that experienced rapid growth and reach middle-income status but are not been able to catch up to the

developed countries and achieve high-income status; but rather, they get stuckt in the middle-income range – the so-called MIT (Gill–Kharas 2015, Glawe–Wagner 2016, Li–Wang 2018, Wang et al. 2018, Zhou et al. 2018). Currently the most widely used definition of middle-income, is derived from the World Bank's classification of countries. The World Bank uses the gross national income (GNI) – formerly GNP per capita) to classify countries into four different income groups – high-income, upper-middle-income, lower-middle-income, and low-income (World Bank 2018). Countries are considered to be stuck in the MIT if they remain in the middle-income group for a long period of time (Glawe–Wagner 2016). For instance, some authors consider a country as being stuck in the MIT if they remain in the middle-income range for over 40 years (Felipe et. al. 2012, Glawe–Wagner 2016); however, other authors differ on the duration.

Authors such as Aiyar, et al. (2013) and Eichengreen et al. (2013) also describe the MIT as economic slowdowns or declines in growth rate of GDP per capita. According to these authors a country is in the MIT if they experience an average GDP growth of at least 3.5% for several years, and then stepped down by at least 2% between successive seven-year periods. The growth slowdowns they argue are always total factor productivity slowdowns (Eichengreen et al. 2013, Glawe–Wagner 2016). Based on the different perspective on the MIT, it can be concluded that the MIT is associated with low productivity and slow economic growth that prevent countries in the middle-income group from advancing to high-income.

Meanwhile, the World Economic Forum and authors such as Sala-i-Martin 2010, Sala-i-Martin et al. 2011, Schwab 2018 have argued that improvements in competitiveness within countries can enhance productivity and increase incomes. Based on this premise, it is reasonable to assume that, if the MIT is associated with low productivity, and competitiveness can increase productivity, then theoretically competitiveness can help countries to overcome the MIT. This provides the basis for investigating the role of competitiveness in overcoming the MIT. Agénor et al. have touched on the importance of competitiveness in avoiding the MIT by noting that "productivity growth from sectoral reallocation and technology catch-up are eventually exhausted, international competitiveness is eroded, output and growth slow, and economies become trapped, unable to transcend to high-income status" (2012, p. 3). Thus, Schwab (2018) points out that, competitiveness factors matter for all countries, regardless of their stage of development, and any pillar can be considered a potential priority.

2.2. Concept and measurement of competitiveness

Ketels (2016) points out that, the debate over the concept of competitiveness which emerged in the 1980s and 1990s through the works of authors such as Michael Porter and Paul Krugman is yet to be reconciled in literature. For instance, Krugman (1994) in his article *'Competitiveness: A Dangerous Obsession'* argued that competitiveness is a meaningless word when applied to national economies. However, Porter (2004) notes that competitiveness is not a zero sum game in which one country gains at the expense of the other but rather it is a concept which encompasses both the static and

dynamic factors of productivity within every country that determine the sustainable current and medium term prosperity (Sala-i-Martin 2010, Sala-i-Martin et al. 2011, Schwab 2018).

The World Economic Forum (WEF) defines competitiveness as the set of institutions, policies and factors that determine a country's level of productivity which in turn sets the level of prosperity that every economy can achieve – a definition that is also shared by authors such as Sala-i-Martin (2010), Sala-i-Martin et al. (2011), and Schwab (2012, 2018). Since the introduction of the first GCI Report in 1979 by the WEF, the GCI has been the most comprehensive index for comparing competitiveness of nations (Cetindamar–Kilitcioglu 2013). The GCI evaluates the factors that collectively determine the level of a country's productivity and is updated periodically. The most recent GCI 4.0 framework is organized into 12 main drivers of productivity, or 'pillars' (See Figure 1). The Pillar and GCI scores are expressed on a 0 to100 scale. The overall GCI score is the simple average of the 12 pillars that make up the index (Schwab 2018, WEF 2018). The World Economic Forum also groups the 12 pillars under 4 thematic areas: Enabling Environment, Human Capital, Markets, and Innovation Ecosystem (See Figure 1).

Figure 1 The Global Competitiveness Index 4.0 thematic areas and pillars
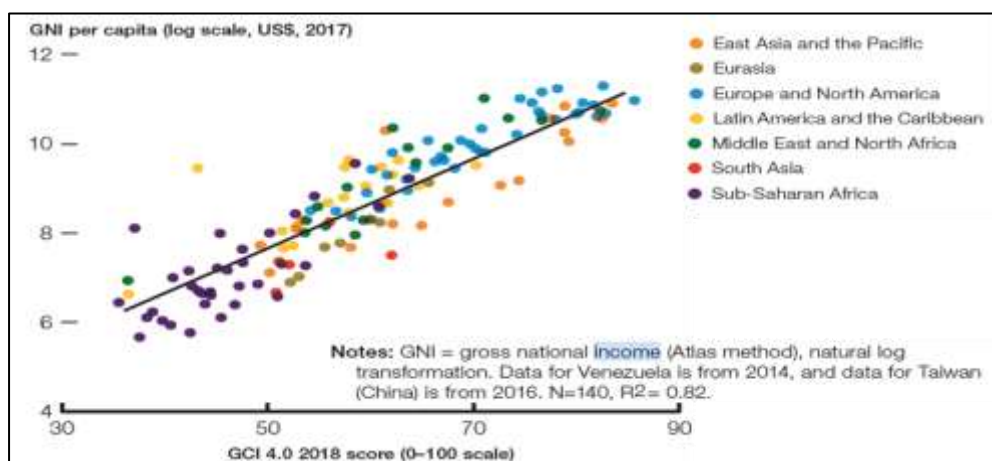

Source: World Economic Forum (2018, p. 2)

2.3. Previous studies on competitiveness

Some authors have sought examine the relationship between competitiveness and various aspects of economic development. For instance, Pelle and Végh (2014, 2015), Farkas (2016) and Annoni et al. (2017) among others have particularly focused on the nexus between competitiveness and various aspects of economic development within the European Union. These authors have found the existence of a competitiveness

divide between the core and periphery countries of the EU (Pelle–Végh 2014, Annoni et al. 2017). For instance, Pelle and Végh (2014) investigated the relations between the common R&D&I policy and the competitiveness divide in the European Union and concluded that, there is a competitiveness gap within the EU. Furthermore, the authors observed that, there appears to be both an East-West and a North-South divide within the EU. Similarly, Annoni et al. (2017) analysed the competitiveness divide of EU countries focusing on the capital regions and other regions with metropolitan areas and found the capital regions to be stronger in terms of competitiveness.

Figure 2 The Global Competitiveness Index and national income

Source: Global Innovation Index Report (2018, p. 7)

The nexus between the competitiveness and income levels has also been previously analysed in the GCI reports (See Schwab 2012, 2017, 2018). For instance, the GCI Report 2018 found a strong correlation between the competitiveness and income levels of countries (See Figure 2); noting that out of 140 countries analysed high-income economies make up the entire top 20 and only three non-high-income economies namely Malaysia (25th), China (28th), and Thailand (38th) feature in the top 40 of the GCI 4.0 rankings. Although the GCI Report 2018 finds a strong positive relationship between income and competitiveness, coupled with the literature that also indicates there is a competitiveness divide among countries, existing studies are yet to investigate the significance and magnitude of this divide particularly between the middle-income and high-income countries. Furthermore, it is still not clear which of the 12 pillars of the GCI 4.0 has the greatest impact on the income levels of countries. Answering these questions could lead to a breakthrough in finding the solution to MIT that has so far alluded economists, researchers, and development practitioners. This paper therefore seeks to fill this empirical gap and policy gap. The next section discusses the methodology used to address this gap.

3. Methodology

3.1. Research design, population, sample, data sources

This paper uses a cross-sectional research design to empirically investigate the magnitude of the competitiveness divide between countries of different income groups. In this study, scores on the GCI 4.0 constitute the dependent variable whereas the income group of countries is the independent variable. The study utilises the most recent GCI 4.0 data drawn from the World Economic Forum database (WEF 2018). The income group classifications are based on World Bank (2018) and the GNI per capita (Atlas Method) data are drawn from the World Development Indicators World Bank (2019). A total of 140 countries were analysed based on availability of GCI 4.0 data (See Appendix 1).

Table 1 Distribution of countries studied by income groups

Group of Countries	Frequency	Total Countries Studied (%)
High-income	52	37.14
Upper-middle-income	34	24.29
Lower-middle-income	32	22.86
Low-income	22	15.71

Source: Author's Construct based on World Bank classifications

Out of the 140 countries with GCI 4.0 data available, most of the countries were classified as middle-income (66 representing 47.14%) followed by the high-income countries 52 representing 37.14%, and low-income countries respectively (See Table 1). Out of the 66 middle-income countries, 34 countries were in the upper-middle-income group whereas 32 were in the lower-middle-income group. As indicated earlier, the countries were selected based on the availability of GCI and GNI per capita (Atlas Method) data. One of the fundamental assumptions that justifies studies on the MIT is that every country aspires to achieve high income status; therefore, studies on the MIT requires comparisons of different income groups (Glawe–Wagner 2016). Since the analysis of the MIT requires the comparison of middle-income against high-income countries, the sample size of each group was inspected to ensure that were above 30 to satisfy the requirements for making statistical comparisons using t-tests.

3.2. Data analysis tools and procedure

The study sough to answer the question of whether there is significant statistical difference between the GCI 4.0 scores of the middle-income and high-income countries. Descriptive statistics and t-test were the main analytical tools used to answer the research questions. Based on the existing literature the following two hypothesis were examined:

H_0: $GCI_{Income\ group\ A} = GCI_{Income\ group\ B}$ with the assumption there is no significant difference in the mean GCI scores of different income groups (i.e. middle-income and high-income countries).

H_1: $GCI_{Income\ group\ A} \neq GCI_{Income\ group\ B}$ with the assumption here is a significant difference in the mean GCI scores of different income groups (i.e. middle-income and high-income countries)

To answer these hypotheses, the study utilises an independent samples t-test. In addition to establishing whether a significant statistical difference exist between the GCI scores of the different countries, another objective was to quantify the magnitude of the expected competitiveness divide between the various income groups. In this regard, an effect size statistic for the independent samples t-test was computed using the following formula:

$$Eta\ Squared\ (\eta^2) = \frac{t^2}{t^2 + (N_1 + N_2 - 2)} \tag{1}$$

Where the 't' represents the t-statistic obtained from the t-test and N_1 and N_2 represents the sample sizes of the two income groups being compared.

3.3. Interpretation of effect size statistics

Pallant (2011) notes that in order "to interpret the strength of the different effect size statistics, the following guidelines were proposed by Cohen (1988, p. 22) when assessing research involving the comparison of different groups" (p. 210):

Table 2 Cohen's criteria for interpreting effect size for independent samples t-test

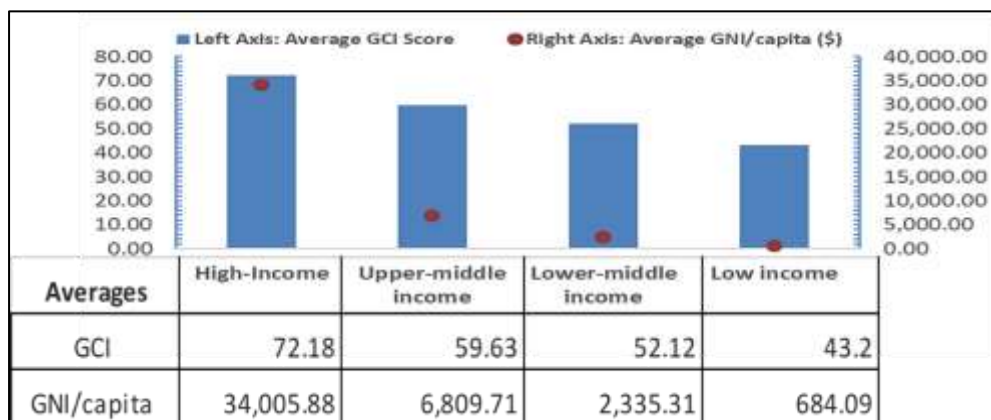| Magnitude	Eta squared (η^2)	Cohen's *d*
Small effect	0.01 or 1%	0.2
Moderate effect	0.06 or 6%	0.5
Large effect	0.14 or 14%	0.8

Source: Author's construct based Pallant 2011

4. Findings and Discussions

4.1. Competitiveness divide among countries by income groups

Since literature suggests that competitiveness is a good determinant of income levels (Schwab 2018, WEF 2018), the study sough to investigate whether there is a significant difference in GCI scores of the high and middle-income countries in order to be able to make an inference as to whether competitiveness can help countries to overcome the MIT. Based on descriptive statistics, the study finds that on average, the high-income countries (72.18) had the highest GCI scores followed by the middle-income countries (55.88) with the low-income countries (43.20) having the lowest GCI scores (See Figure 3). An independent samples t-test was conducted to investigate the statistical significance of this competitiveness divide among countries in different income brackets.

Figure 3 Trend of Global Competitiveness Index scores and GNI per capita by income groups

Averages	High-Income	Upper-middle income	Lower-middle income	Low income
GCI	72.18	59.63	52.12	43.2
GNI/capita	34,005.88	6,809.71	2,335.31	684.09

Source: Author's calculations based on GCI 4.0 data; World Bank (2018, 2019)

Note: These calculations are based on 139 countries since the GNI per capita (Atlas Method) for the current year was unavailable for Taiwan.

The independent samples t-test revealed a significant gap between the average GCI scores of the high and middle-income countries. The results are as follows: the high-income countries (M = 71.70, SD = 8.64) were found to have a higher average GCI score than the middle-income countries (M = 55.99, SD = 7.11); t 98) = 10.59, p = 0.00, two-tailed). The mean difference was 15.71 (95% CI: 12.77 to 18.66). The magnitude of the difference in mean scores was investigate using the eta square formula for independent samples t-tests (Equation 1). The computed η^2 was 0.54. Using the guidelines for interpreting this value as outlined in Table 2, the study finds a very large competitiveness gap between the high and middle-income countries. The implication of this finding is that, over 50 per cent of the variance in GCI scores can be explained by the income status of the countries.

Table 3 Magnitude of competitiveness divide between lower- and upper-middle countries

Income Groups	t	Sig	η^2	Magnitude
Middle vs High	11.735	0.00*	0.54	Large effect
Upper-middle vs Lower-middle	5.025	0.00*	0.28	Large effect
Upper-middle vs High	8.496	0.00*	0.46	Large effect
Lower-middle vs High	12.875	0.00*	0.67	Large effect
*Significant level at 1% and 5%				

Source: Author's calculations

Further independent samples t-test of the GCI 4.0 scores of the different country groups revealed that there is also a significantly large competitiveness divide even among the middle-income countries. However, an inspection of the computed eta squares shows that the competitiveness divide is largest between the lower-middle income countries and high-income countries on one hand and closer between the upper-middle income countries and lower-middle income countries on the other hand (See Table 3).

5. Conclusions and recommendations

The study was able to establish a very strong positive relationship between the GCI 4.0 and the GNI per capita of countries confirming earlier position of the World Economic Forum. There was a significant difference between the GCI 4.0 scores of all the countries analysed. In all instances, the higher income groups had higher GCI scores. Therefore, the study rejects the null hypothesis that there is no significant difference in the mean GCI scores of different income groups. The study also finds a very large competitiveness divide between the various income groups analysed. In the case of the high-income and middle-income countries, the computed η^2 was 0.54. Even among the middle-income countries, the study finds a significant large competitiveness divide between the upper-middle income and lower-middle-income countries. However, the largest competitiveness divide is between the lower middle-income countries and the high-income countries. Since, the study has confirmed that higher income groups tend to have higher GCI scores, it can be concluded that improving the overall level of global competitiveness of middle-income countries has the potential to help them to escape the MIT. It could also be the case that the low level of competitiveness in these countries can also account for countries being stuck in the MIT since the level of competitiveness depends on factors such as strong institutions, quality human capital, and technological advancement which have already been identified in existing literature as being among some of the most important determinants of the MIT. The limitation of cross-sectional studies of this nature, is that, they do not allow for explanations and understanding of causal processes that occur over time; however, the findings still show that that the GCI 4.0 is highly correlated with income levels of countries. Although, the GCI is a good predictor of income levels, it is also very important to know the unique contributions of each of the 12 pillars and even the components of each of the pillars. It is therefore recommended that future studies should investigate how these aspects of the GCI impact the income levels of countries. The implications of this study are that, policy makers would have to identify factors within their countries that either inhibits or promotes competitiveness and productive in order to ensure sustainable economic growth.

References

Agénor, P. – Canuto, C. – Jelenic, M. (2012): *Avoiding Middle-Income Growth Traps.* Economic Premis (98). World Bank, Washington D.C.

Aiyar, S. – Duval, R. – Puy, D. – Wu, Y. – Zhang, L. (2013): Growth Slowdowns and the Middle-Income Trap. *IMF Working Paper WP/13/71.* International Monetary Fund, Washington.

Annoni, P. – Dijkstra, L. – Gargano, N. (2017):*The EU Regional Competitiveness Index 2016.* European Commission.

Cetindamar, D. – Kilitcioglu, H. (2013): Measuring the competitiveness of a firm for an award system. *Competitiveness Review: An International Business Journal incorporating Journal of Global Competitiveness*, 23, 1, 7–22. Emerald.

Cohen, J. W. (1988): *Statistical power analysis for the behavioral sciences* (2nd edition). Hillsdal: Lawrence Erlbaum Associates.

Eichengreen, B. – Park, D. – Shin, K. (2013): *Growth Slowdowns Redux: New Evidence on the Middle Income Trap.* National Bureau of Economic Research, Cambridge.

Farkas, B. (2016): *Models of Capitalism in the European Union.* Palgrave Macmillan, London.

Felipe, J. – Abdon, A. – Kumar, U. (2012): T*racking the Middle-income Trap: What Is It, Who Is in It, and Why?* Levy Economics Institute of Bard College, Working Paper No. 715.

Gill, I. – Kharas, H. (2007): *An East Asian Renaissance, Ideas for Economic Growth.* World Bank, Washington D.C.

Gill, I. – Kharas, H. (2015): *The Middle-Income Trap Turns Ten. Policy Research Working Paper No.7403.* World Bank, Washington D.C.

Glawe, L. – Wagner, H. (2016): *The middle-income trap - definitions, theories and countries concerned: a literature survey.* Munich Personal RePEc Archive, Hagen.

Glawe, L. – Wagner, H. (2018): *The Middle-Income Trap 2.0, the Increasing Role of Human Capital in the Age of Automation and Implications for Developing Asia.* CEAMeS Discussion Paper No. 15/2018. Center for East Asia Macro-economic Studies, Hagen.

Ketels, C. (2016): *Competitiveness Frameworks Review, An Analysis Conducted for the National Competitiveness Council.* National Competitiveness Council, Dublin.

Krugman, P. (1994): Competitiveness: A dangerous obsession. *Foreign Affairs,* 73, 2, 28–44.

Li, T. – Wang, Y. (2018), Growth channels of human capital: A Chinese panel data study. *China Economic Review,* 51, 51, 309–322. China Economic Review, Hong Kong.

Pallant, J. (2011): *SPSS survival manual A step by step guide to data analysis using the SPSS program 4th Edition,* Allen & Unwin, Berkshire.

Pelle, A. – Végh, M. Z. (2014): *Relations between the common R&D&I policy and the competitiveness divide in the European Union.*

Pelle, A. – Végh, M. Z. (2015): EU member states' ability to attract intellectual capital in times of crisis. *Competitiveness Review.* Emerald.

Pelle, A. – Végh, M. Z. (2016): Entrepreneurship and Competitiveness in the EU Member States, with Special Regard to the Visegrad Countries. *Problemy Zardzania,* 15, 1, 13–32.

Porter, M. E. (2004): *The Microeconomic Foundations of Prosperity: Findings from the Microeconomic Competitions Index.* World Economic Forum, Geneva.

Sala-i-Martin X. (2010): *The Economics behind the World Economic Forum's Global Competitiveness Index* in Dimensions of Competitiveness. MIT Press.

Sala-i-Martin, X. – Bilbao-Osorio, B. – Blanke, J. – Crotti, R. – Hanouz, M. D. – Geiger, T. (2011): The Global Competitiveness Index 2011–2012: Setting the Foundations for Strong Productivity. In K. Schwab (ed.) *The Global Competitiveness Report 2011–2012.* World Economic Forum, Geneva.

Schwab, K. (ed.) (2012): *The Global Competitiveness Report 2012–2013*. World Economic Forum, Geneva.

Schwab, K. (ed.) (2017): *The Global Competitiveness Report 2017–2018*. World Economic Forum, Geneva.

Schwab, K. (ed.) (2018), *The Global Competitiveness Report 2018*. World Economic Forum, Geneva.

UN (2015): *Transforming Our World: The 2030 Agenda for Sustainable Development.* United Nations, New York.

UN (2017): *Resolution adopted by the General Assembly on 6 July 2017, A/RES/71/313: Work of the Statistical Commission pertaining to the 2030 Agenda for Sustainable Development.* New York.

Wang, L. – Li, M. – Abbey, C. – Rozelle, S. (2018): Human Capital and the Middle Income Trap: How Many of China's Youth are going to High School? *The Developing Economies*, 56, 2, 82–103. Institute of Developing Economies, Chiba.

WEF (2018): *Global Competitiveness Report 2018*. Geneva: World Economic Forum.

World Bank (2012): *China 2030: Building a Modern, Harmonious, and Creative High-Income Society.* World Bank, Washington D.C.

World Bank (2018): *How the World Bank classifies countries..* Retrieved from https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups. World Bank, Washington D.C.

World Bank (2019): *World Development Indicators.* World Bank, Washington D.C.

Zhou, M.-Y. – Xiong, W.-M. – Li, X.-Y. – Liao, H. (2018): The Middle-Income Trap and the Coping Strategies From Network-Based Perspectives. *Entropy*, 20, 10, 803.

Appendices

Appendix 1: List of countries studied by income groups

High-income					
1	Argentina	20	Iceland	39	Saudi Arabia
2	Australia	21	Ireland	40	Seychelles
3	Austria	22	Israel	41	Singapore
4	Bahrain	23	Italy	42	Slovakia
5	Belgium	24	Japan	43	Slovenia
6	Brunei	25	South Korea	44	Spain
7	Canada	26	Kuwait	45	Sweden
8	Chile	27	Latvia	46	Switzerland
9	Croatia	28	Lithuania	47	Taiwan
10	Cyprus	29	Luxembourg	48	Trinidad and Tobago
11	Czech Republic	30	Malta	49	UAE
12	Denmark	31	Netherlands	50	UK
13	Estonia	32	New Zealand	51	USA
14	Finland	33	Norway	52	Uruguay
15	France	34	Oman		
16	Germany	35	Panama		
17	Greece	36	Poland		
18	Hong Kong	37	Portugal		
19	Hungary	38	Qatar		
Upper-middle income					
1	Albania	13	Ecuador	25	Namibia
2	Algeria	14	Guatemala	26	Paraguay
3	Armenia	15	Iran	27	Peru
4	Azerbaijan	16	Jamaica	28	Romania
5	Bosnia	17	Jordan	29	Russian
6	Botswana	18	Kazakhstan	30	Serbia
7	Brazil	19	Lebanon	31	South Africa
8	Bulgaria	20	Macedonia	32	Thailand
9	China	21	Malaysia	33	Turkey
10	Colombia	22	Mauritius	34	Venezuela
11	Costa Rica	23	Mexico		
12	Dominican Republic	24	Montenegro		

Lower-middle income					
1	Angola	12	Ghana	23	Morocco
2	Bangladesh	13	Honduras	24	Nicarag
3	Bolivia	14	India	25	Nigeria
4	Cambodi	15	Indonesia	26	Pakistan
5	Cameroo	16	Kenya	27	Philippines
6	Cape Verde	17	Kyrgyzstan	28	Sri Lanka
7	Côte d'Ivoire	18	Lao PDR	29	Tunisia
8	Egypt	19	Lesotho	30	Ukraine
9	El Salvador	20	Mauritania	31	Viet Nam
10	Eswatin	21	Moldova	32	Zambia
11	Georgia	22	Mongolia		
Low-income					
1	Benin	9	Haiti	17	Sierra Leone
2	Burkina	10	Liberia	18	Tajikistan
3	Burundi	11	Malawi	19	Tanzania
4	Chad	12	Mali	20	Uganda
5	Congo,	13	Mozambique	21	Yemen
6	Ethiopia	14	Nepal	22	Zimbabwe
7	Gambia	15	Rwanda		
8	Guinea	16	Senegal		

Note: The list includes all the 140 countries captured in the GCI 4.0 Report 2018